National Aeronautics and Space Administration

MARSHALL STAR

Serving the Marshall Space Flight Center Community

Oct. 7, 2010

Message from the NASA administrator

I know that this year of transition has, at times, been difficult for everyone. Our future direction sometimes seemed in doubt, and there was no shortage of critics of our agency.

However, the United States Congress last night (Oct. 1) issued a resounding vote of confidence in your hard work, and endorsed a clear path forward for NASA. Drawing on the ambitious plan for our agency laid out by President Obama, the Congress approved the National Aeronautics and Space Administration Authorization Act of 2010.

This bill helps put the U.S. space program on a more sustainable trajectory and will help inspire a new generation of Americans to pursue careers in science, technology, engineering, and mathematics. With this new direction, we will extend the life of the International Space Station, launch a commercial space transportation industry, develop path-breaking technologies, and work to create thousands of new jobs in a vibrant, forward-looking economy.

One of the more discussed parts of NASA's work is how we should do human exploration of our solar system. We all agree human exploration is a vital part of our space program. We now agree that a new heavy-lift Space Launch System is going to be an essential early part of our plans to carry humans beyond low Earth orbit, and that we must also develop the new technologies to help us thrive there.

Charles Bolden

I thank the Congress for their thoughtful deliberations about NASA's future over the past months. Both the House and the Senate provided

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Marshall scientist finds place in the sun with solar probe instrument win

By Janet Anderson

Dr. Jonathan Cirtain, an astrophysicist at the Marshall Space Flight Center, and his science team have secured a proposal award of $8.2 million to help build parts for and test an instrument for the Solar Probe Plus flagship mission to directly sample the sun's atmosphere.

NASA recently announced the development of a mission to visit and study the sun – up close and personal. The unprecedented Solar Probe Plus mission is slated to launch no later than 2018.

"This is the equivalent of a Hubble-class mission for solar

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SERVIR program brings satellite imagery, decision-support tools to Himalayan region

By Janet Anderson

NASA and the U.S. Agency for International Development, or USAID, have expanded their successful collaboration with international partners to launch an innovative, Web-based environmental management system for the Himalayan region.

The partners inaugurated this state-of-the-art regional monitoring system, known as SERVIR-Himalaya, at the International Centre for Integrated Mountain Development in Kathmandu, Nepal, on Oct. 5. NASA Administrator Charles

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Marshall to host Breast Cancer Awareness speakers Oct. 12

The Marshall Space Flight Center will host a program Oct. 12 to mark National Breast Cancer Awareness Month.

The event, to be held from 9-11:30 a.m. in Building 4200, Room P110, will include speakers Sherry Johnson, a beautician and volunteer program facilitator for the American Cancer Society's "Look Good Feel Better" program, and Brenda Kerley, a former nurse and owner of Kerley Medical Equipment and Pretty Woman Boutique in Huntsville.

Door prizes will be presented during the program. Participants must be present to win. For more information, call Inge Kuberg at 544-5678 or Patty Montgomery at 544-2433.

Watch Inside Marshall for details on additional Breast Cancer Awareness Month events later in October.

Solar *Continued from page 1*

physics," said Cirtain, the Marshall lead for the proposed Solar Wind Electrons Alphas and Protons instrument, or SWEAP. "We expect the data collected on this mission to have a dramatic and revolutionary impact on the field of solar astrophysics."

Solar Probe Plus promises to transform our understanding of the sun and its effects on the solar system. It will explore a region no other spacecraft has ever encountered.

Cirtain's team consists of scientists from the Marshall Center and the University of Alabama in Huntsville. Marshall's Science & Mission Systems Office and Engineering Directorate also are partnering with the Smithsonian Astrophysical Observatory of Cambridge, Mass., the lead on the proposal, and the University of California at Berkeley.

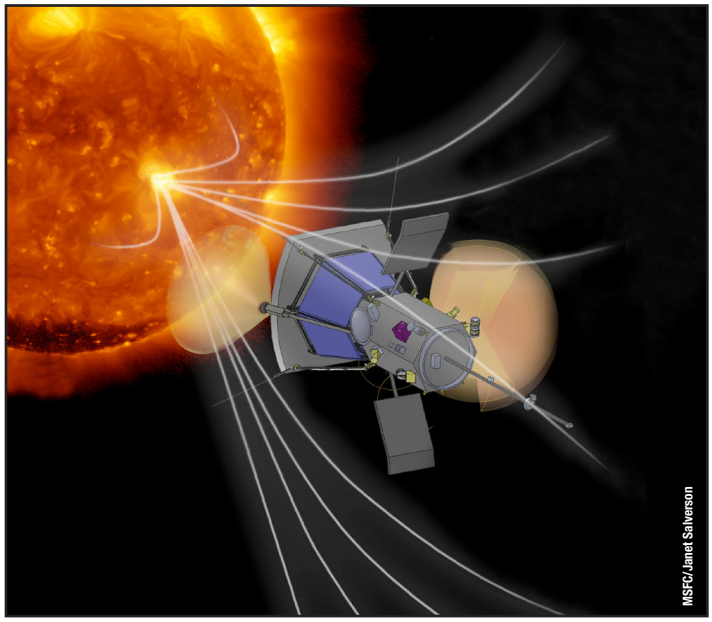
Cirtain and his team now are developing instrument prototypes for the mission. These instruments will specifically count the most abundant particles in the solar wind – electrons, protons and helium ions – and measure their properties. The investigation also is designed to sweep up the solar wind in a special conductive metal cup, called a Faraday cup, and determine the speed and direction of the sun's particles.

The Huntsville team is partnered with the Smithsonian Astrophysical Observatory for the development of the instruments.

"While other instruments are hidden, we'll be right out there getting blasted by the sun, literally 'touching' a star for the first time," said Justin Kasper, SWEAP principal investigator and a Smithsonian astronomer.

Solar Probe Plus is a spacecraft the size of a small car that will plunge directly into the sun's atmosphere, approximately four million miles from the physical surface of the star. It will explore a region no other spacecraft has ever encountered.

"The experiments selected for Solar Probe Plus are specifically designed to solve two key questions of solar physics – why is the sun's outer atmosphere so much hotter than the sun's visible surface and what propels the solar wind that affects Earth and our solar system?" said Dick Fisher, director of NASA's Heliophysics Divison in Washington. "We have been struggling with these questions for decades and this mission should finally provide those answers."



The Solar Probe Plus flagship science mission begins its dive into the outer layer of the sun's atmosphere in this artist's rendering.

The Solar Probe Plus mission is part of NASA's Living with a Star Program, designed to study and understand aspects of the sun and Earth's space environment that impact life and society. The program is managed by NASA's Goddard Space Flight Center in Greenbelt, Md., with oversight by the Heliophysics Division of NASA's Science Mission Directorate. The Johns Hopkins University Applied Physics Laboratory in Laurel, Md., is responsible for formulating, implementing, and operating the Solar Probe Mission.

For more information on Solar Probe Plus visit http://solarprobe.gsfc.nasa.gov.

For more information about the Living with the Star Program visit http://science.nasa.gov/about-us/smd-programs/living-with-a-star/.

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